

Remarks

Claims 1-8, 25-28 and 40 are pending. Claim 40 is newly added in this response.

Affirmation with traverse of the election of claims 1-8 and 25-28 and of the non-election of Claims 9-24 and 29-39 is hereby made.

The specification has been objected to as failing to provide proper antecedent basis for the claimed subject matter. On page 24, a new paragraph has been inserted into the specification the phrase "wherein said magenta ink comprises from about 0.5 to about 6 wt% dye" as in claim 5 and the phrase "wherein said magenta ink comprises from about 0.5 to about 4 wt% dye" as in claim 6. Furthermore on page 24, in the paragraph preceding the newly inserted paragraph, the upper range given for the weight percent amount of dye in the magenta aqueous ink composition has been amended to match the upper range in claim 5 and in the newly inserted paragraph.

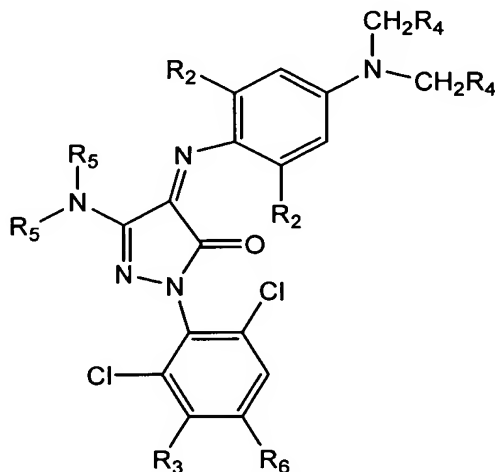
In addition, structure 3 in the paragraph on pages 19-20 has been amended to correct a typographical error in the expression of an alkyl group in the upper right corner of the structure. This alkyl group was inadvertently written " $-\text{CHR}_4$ " and has been amended to be written " $-\text{CH}_2\text{R}_4$ ", which is consistent with the other identical alkyl groups in the structure. Also, on page 19, line 13, a period was inserted at the end of a sentence. Furthermore, on page 20, line 5, the phrase "during ozonolysis" was deleted from the sentence describing how ortho-methyl groups inhibit formation of tetrahedral N. As originally stated, the sentence implied that the described mechanism only took place in a situation involving ozonolysis.

With these changes, the examiner's objections to the specification should now be obviated. There is basis either in the original specification or claims for these changes. No new matter has been added.

Claims 1-4 and 25-28 have been amended to specify that the claimed magenta dye is water-soluble. In addition, claims 1-3 and 25-27 have been amended to delete hydrogen as a member of the Markush group for R3. Furthermore, claim 3 and 27 have been amended to delete hydrogen as a member of the Markush group for R4 and to correct the typographical error relating to the alkyl group at the upper right hand corner of the structure, changing it from “—CHR₄” to “—CH₂R₄”. Also, new claim 40 has been added to cover the range “from about 0.1 to about 6 wt% dye”. Support for these amendments can be found in the specification as filed, e.g., see page 20, lines 16-20; and page 24, lines 8-16. No new matter is added.

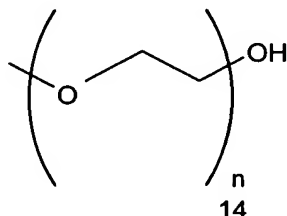
The Examiner has rejected claims 1-8 and 25-28 under 35 U.S.C. §103 (a) as being unpatentable over Ishizuka.

As presently claimed, the present application relates to a magenta ink for ink-jet printing, comprising a water-soluble dye having a structure as follows:



R2 is selected from the group consisting of methyl, ethyl, propyl, isopropyl and halogen;

R3 is selected from the group consisting of SO₃H, COOH, and a polyether group



where n is from 2 to 100;

R4 is selected from the group consisting of H, SO₃H, COOH, CH₂SO₃H, CH₂COOH, C₂H₄SO₃H and C₂H₄COOH;

R5 is selected from the group consisting of ethyl, propyl, isopropyl, phenyl, substituted phenyl, and R4; and

R6 is selected from the group consisting of H, halogen, methyl, amino, substituted amino, R4 and R3.

In contrast to the dyes used in Ishizuka which are oil-soluble, the dyes in the presently claimed invention are water-soluble. The presently claimed dyes require no dispersing polymer, as is required by the dyes of Ishizuka. As presently claimed, the dyes in the presently claimed invention all have a water-solubilizing group such as COOH, SO₃H or polyether directly on one of the benzene rings in the dye. In Ishizuka, on the other hand, as a result of large oil-soluble groups, such as chains of carbons, between the benzene ring and the water-solubilizing groups, any sulfo or carboxyl substituents, if any, which might be present, fail to render a water-solubilizing effect on the dye. Thus the dye still remains oil-soluble, unlike the water-soluble dye of the presently claimed invention.

Furthermore, a preferred embodiment of the presently claimed invention, as exemplified in claims 3 and 27, has water solubilizing groups directly connected to acetamide groups, which causes a further water-solubilizing effect.

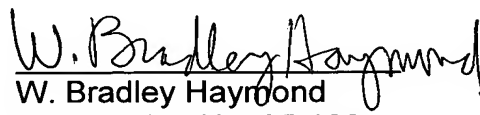
In addition, the dyes in the presently claimed invention have a benzene ring attached to an imino nitrogen, the benzene ring all having alkyl or halogen groups attached ortho to the benzene ring. These alkyl or halogen groups inhibit formation of tetrahedral nitrogen. Ishizuka discloses no such protective groups for its dyes.

Thus, all of the dyes of the presently claimed invention are water-soluble and have specific groups enhancing their water-solubility and inhibiting formation of tetrahedral N. In contrast the dyes of Ishizuka are oil-soluble and do not have the necessary groups to render the dyes water-soluble or protect against tetrahedral N. Although at first glance, the structures of the dyes of the present invention

and Ishizuka appear similar, these similarities are outweighed by the differences between them.

Based on the arguments presented above, it is submitted that the pending claims, as amended herein, are allowable over the art of record. Therefore, the applicant respectfully requests that the §103(a) rejection be withdrawn.

Respectfully submitted,


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